

## **REMARKS**

### **Priority**

In accordance with 35 U.S.C. §119(e) and 35 U.S.C. §120, the Applicants have submitted an amendment containing a specific reference to the prior filed applications in the section above entitled “In the Specification”.

### **Claim Rejections – 35 USC §112**

The Examiner has rejected to Claim 1 under 35 USC §112 second paragraph as being indefinite. In particular, referring to the limitation, “determining a steering line of the vehicle” the Examiner states that, this is indefinite because the “steering line of the vehicle” is a mechanical component and the Examiner does not understand how it can be determined. Claim 1 has been amended to recite, “determining a steering torque of a steering line of the vehicle.” This amendment is not new matter and is supported by the specification and the drawings as originally submitted, in particular my paragraphs [0049]-[0052] and Figure 1.

### **Claim Rejections – 35 USC §103**

Claims 18-20, 22-30, 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. (WO 02/074638 A1) in view of Ono (US 6802226 B2).

Obviousness is a question of law based on factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). See MPEP §2141. The Graham factual inquiries include (A) determining the scope and content of the prior art; (B) ascertaining the differences between the claimed invention and the prior art; and (C) resolving the level of ordinary skill in the art. Id. “The question of obviousness must be resolved on the basis of these factual determinations. While each case is different and must be decided on its own facts, the Graham factors, including secondary considerations when present, are the controlling inquiries in any obviousness analysis.” Id.

A proper rejection under 35 U.S.C. §103(a) requires that, the Examiner must establish an “apparent reason” to modify the reference or to combine reference teachings. *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). According to the United States Supreme Court, “[o]ften, it will be necessary ... to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion

claimed by the patent at issue. To facilitate review, this analysis should be made explicit.” KSR Int’l Co. v. Teleflex, Inc., No. 04-1350 (U.S. Apr. 30, 2007), slip op. at 14.

The Examiner states that Barton et al. in view of Ono discloses, “estimating a value of a load moment acting on the steering line of the vehicle (see Ono column 4, lines 47-59); wherein the additional steering torque is determined on the estimated value of the load moment (see id). It would be obvious to one of ordinary skill in the art to combine Barton and Ono so that the steering torque comprises the additional torque in Barton and the additional torque in Ono.” Applicants respectfully disagree.

Claim 18 has been amended to recite, “estimating a value of a load moment acting on the steering line of the vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column.” Claim 26 has similarly been amended to recite, “an estimation device for estimating a load moment that acts on the steering line based on signals from the one or more sensors mounted in the steering line of the motor vehicle, wherein the load moment is vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column.” No new matter has been added with these amendment as both of these amendments are supported by the specification and the drawings as originally filed, in particular by Figure 2 and paragraphs [0113]-[0122].

Ono teaches estimating a load moment based on a steering torque and an assist torque (Column 4, lines 47-59). Ono does not teach estimating a load moment using a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column. Therefore, Barton et al. in view Ono does not teach, “estimating a value of a load moment acting on the steering line of the vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column,” as recited by amended claim 18 and the Examiner has not provided a reason to modify the combined references to do so. Nor does Barton et al. in view of Ono teach, “an estimation device for estimating a load moment that acts on the steering line based on signals from the one or more sensors mounted in the steering line of the motor vehicle, wherein the load moment is vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column” and the Examiner has not provided a reason to modify the combined references to do so. Thus, claims 18 and 26 are allowable over Barton et al. in view of Ono for at least these reasons. Withdrawal of the 35 U.S.C. § 103(a) rejections of these claims is respectfully requested.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. in view of Ono and further in view of Ekmark (US 2004/0148080 A1). Barton et al. in view of Ono, does not disclose, “estimating a value of a load moment acting on the steering line of the vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column,” as required by Applicants’ claim 18, from which claim 21 ultimately depends. Ekmark fails to remedy this initial deficiency of Barton et al. in view of Ono and the Examiner has not provided a reason to modify the combined references to do so. Thus, claim 21 is allowable over Barton et al. in view of Ono further in view of Ekmark for at least these reasons. Withdrawal of the 35 U.S.C. § 103(a) rejections of this claim is respectfully requested.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. in view of Ono and further in view of Kind (US 6,712,175). Barton et al. in view of Ono, does not disclose, “an estimation device for estimating a load moment that acts on the steering line based on signals from the one or more sensors mounted in the steering line of the motor vehicle, wherein the load moment is vehicle based upon a hand moment, a motor moment, a steering column steering angle and a steering angle velocity of a steering column,” as required by Applicants’ amended claim 26, from which claim 31 ultimately depends. Kind fails to remedy this initial deficiency of Barton et al. in view of Ono and the Examiner has not provided a reason to modify the combined references to do so. Thus, claim 31 is allowable over Barton et al. in view of Ono further in view of Kind for at least these reasons. Withdrawal of the 35 U.S.C. § 103(a) rejections of this claim is respectfully requested.

## **CONCLUSION**

Accordingly, Applicant believes that the claims overcome the raised objections and rejections and are in a condition for allowance.

Respectfully submitted,

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